

CLAIMS

WHAT IS CLAIMED IS:

1. A method of manufacture, remanufacture, or repair of a compressor having:
  - a rotor having a working portion having a first end face;
  - a housing assembly carrying the rotor for rotation about a rotor axis and having a first housing element having a first surface facing the first end face, the method comprising:
    - positioning one or more spacer elements from the first housing element;
    - machining the one or more spacer elements; and
    - applying a coating over the first surface around the one or more spacer elements.
2. The method of claim 1 wherein there are a plurality of such spacer elements.
3. The method of claim 2 wherein the machining of the spacer elements provides coplanarity of first end surfaces of the spacer elements.
4. The method of claim 3 further comprising:
  - plastically deforming the coating to a thickness associated with a height of the spacer elements.
5. The method of claim 4 wherein the thickness is between 40 and 250  $\mu\text{m}$ .
6. The method of claim 4 wherein the plastically deforming consists essentially of compressing.
7. The method of claim 4 wherein the plastically deforming consists essentially of compressing with said rotor.

8. The method of claim 4 wherein the plastically deforming consists essentially of compressing with a flat element.

9. The method of claim 1 wherein the positioning of the spacer elements comprises press fitting.

10. The method of claim 1 wherein there are between 3 and 5 spacer elements.

11. The method of claim 1 further comprising removing old spacer elements before inserting the at least one spacer element.

12. The method of claim 1 wherein the rotor is a screw-type male rotor and the compressor further includes at least one screw-type female rotor enmeshed with the male rotor.

13. A method of manufacture, remanufacture, or repair of a compressor having:

a rotor having a working portion having a first end face;

a housing assembly carrying the rotor for rotation about a rotor axis and having a first housing element having a first surface facing the first end face rotor working portion, the method comprising:

applying a coating over the first surface around a plurality of spacer elements protruding from the first housing element; and

plastically deforming the coating by compressing the coating.

14. The method of claim 1 wherein:

the compressing comprises compressing with the rotor.

15. The method of claim 1 wherein:

the compressing comprises compressing with a flat plate.

16. A method of manufacture, remanufacture, or repair of a compressor having:

- a rotor having a working portion having a first end face;
- a housing assembly carrying the rotor for rotation about a rotor axis and having a first housing element having a first surface facing the first end face rotor working portion, the method comprising the steps of:

- one or more steps for providing at least one spacer element protruding from the first housing element;

- one or more steps for applying a coating over the first surface; and

- one or more steps for precompressing the applied coating.

17. The method of claim 16 wherein:

- the one or more steps for providing at least one spacer element protruding from the first housing element includes an inserting step and a machining step after the inserting step.

18. The method of claim 16 wherein:

- the one or more steps for applying a coating over the first surface comprises applying the coating around the at least one spacer element.